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**Product Guide Specification**

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, based on *MasterFormat 2015* and *The Project Resource Manual—CSI Manual of Practice*. *The Manufacturer is responsible for technical accuracy.*

The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Words and sentences within brackets [ ] are choices to include or exclude a particular item or statement. Coordinate this section with other specification sections and the Drawings.

**SECTION 28 23 29  
VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS  
BOSCH IIR-50940-LR INFRARED ILLUMINATOR**

**PART 1 – GENERAL**

1.1 SUMMARY

A. Section Includes

1. Video Surveillance Remote Devices and Sensors.

B. Related Sections

1. Section [26 55 53 – Special Purpose Lighting – Security Lighting].
2. Section [28 23 13 – Video Surveillance Control and Management Systems].
3. Section [28 23 16 – Video Surveillance Monitoring and Supervisory Interfaces].
4. Section [28 23 23 – Video Surveillance Systems Infrastructure].

\*\*\*\*\*Specifier's note: Include those standards referenced elsewhere in this SECTION.

## 1.2 REFERENCES

Standards	
<b>CE-EMC</b>	EN 61547 (Lighting-Immunity)
	EN 55015 (Lighting-Emission)
	EN 62493( Lighting EMF)
	EN 50130-4 (Alarm EMC)
<b>Safety</b>	
CE-LVD	EN-60598-1 (Luminaires-General)
	EN-60598-2-1 (Luminaires)
LED	EN 62471 Risk group 2 (LED safety)
<b>Environmental</b>	IEC / EN 60529 IP66
	IEC / EN 62262 IK09
	EN50130-5 Class IV (Alarm-environmental)
	EN 50581 RoHS
<b>USA cULus</b>	UL 2108 Low Voltage Lighting Systems
	UL 8750 Light Emitting Diode (LED) equipment for use in lighting systems
	CSA C22.2 No. 250.0-08 Luminaires
	FCC, Class B
<b>AUS</b>	RCM AS / NZS CISPR 22 Class B

## 1.3 SYSTEM DESCRIPTION

### A. Video Surveillance Remote Devices

1. Bosch IIR-50940-LR Infrared Illuminator

### B. Performance Requirements

1. The infrared illuminator shall use 940 nm infrared light.
2. The infrared illuminator shall offer adjustable infrared intensity.
3. The infrared illuminator shall have a maximum range of 165 m (540 ft).
4. The infrared illuminator shall offer a photocell control with an adjustable day/night switch point.

5. The infrared illuminator shall have four selectable beam angles.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section [01 33 00].
- B. Product Data:
  1. Manufacturer's data, user and installation manuals for all equipment and software programs including computer equipment and other equipment required for complete video management system.
- C. Shop Drawings; include
  1. System device locations on architectural floor plans.
  2. Full Schematic of system, including wiring information for all devices.
- D. Closeout Submittals
  1. User manual.
  2. Parts list.
  3. System device locations on architectural floor plans.
  4. Wiring and connection diagram.
  5. Maintenance requirements.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer:
  1. Minimum of [10] years of experience in manufacture and design Video Surveillance Devices.
  2. Manufacturer's quality system: Registered to ISO 9001 Quality Standard.
- B. Video Surveillance System
  1. Listed by [UL] [EN] [FCC] specifically for the required loads. Provide evidence of compliance upon request.
- C. Installer:
  1. Minimum of [5] years of experience installing Video Surveillance Systems.

#### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Comply with requirements of Section [01 60 00].
- B. Deliver materials in manufacturer's original, unopened, undamaged containers; and unharmed original identification labels.
- C. Protect store materials from environmental and temperature conditions following manufacturer's instructions.
- D. Handle and operate products and systems according to manufacturer's instructions.

- E. Bosch provides off-the-shelf availability for our top selling products and same-day or 24-hour shipping.

#### 1.7 WARRANTY

- A. Provide manufacturer's warranty covering [5] years for replacement and repair of defective equipment.

#### 1.8 MAINTENANCE

- A. Make ordering of new equipment for expansions, replacements, and spare parts available to dealers and end users.
- B. Provide factory direct technical support from 8:00 a.m. to 8:00 p.m. via phone and e-mail.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

A. Acceptable Manufacturer:

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B. Substitutions: [Not permitted.] [Under provisions of Division 1.]

1. [All proposed substitutions must be approved by the Architect or Engineer professional.]
2. [Proposed substitutions must provide a line-by-line compliance documentation.]

\*\*\*\*\*Specifier's note: Select Camera System Series based on project requirement.

## 2.2 BOSCH IIR-50940-LR INFRARED ILLUMINATOR

### A. General Characteristics:

1. The infrared illuminator shall be LED type.
2. The infrared illuminator shall be robust.
3. The infrared illuminator shall operate with high efficiency.
4. The infrared illuminator shall operate with high reliability.
5. The infrared illuminator shall operate in harsh weather conditions.
6. The infrared illuminator shall have been rigorously tested and proven for use by the manufacturer.

### B. Performance

1. The infrared illuminator shall provide infrared illumination suitable for maximum range up to 165 m (540 ft) when used in combination with appropriate high-sensitivity analog and IP cameras and lenses.
2. The infrared illuminator shall provide the performance under zero lux conditions.
3. The infrared illuminator shall be have a wavelength of 940 nm.
4. The infrared illuminator shall be available in beam patterns of 10°, 30°, 60°, and 95°.
5. The infrared illuminator shall have a high-efficiency infrared LED array.
6. The infrared illuminator shall have diffused illumination using an exchangeable beam diffuser.
7. The infrared illuminator shall enable increased surveillance range, wider beam patterns, and evenly illuminated nighttime.
8. The infrared illuminator shall use a sensitivity-adjustable photocell.
9. The infrared illuminator shall have photocell-controlled on/off switching.
10. The infrared illuminator shall have intensity adjustable output.
11. The infrared illuminator shall dissipate thermal energy through an integral heat sink.
12. The infrared illuminator shall operate independently of any cooling fan or similar device, either internal or external.
13. The infrared illuminator shall have a solid state design without any moving mechanical parts.
14. The infrared illuminator shall offset the bandwidth requirements for IP cameras in low-light applications.

C. Performance Ranges

1. The infrared illuminator shall offer the following performance ranges:

Beam pattern diffuser	Achievable Distance*	HFOV
10°	165 m (540 ft)	29 m (95 ft)
30°	79 m (260 ft)	42 m (139 ft)
60°	49 m (160 ft)	56 m (185 ft)
95°	24 m (80 ft)	53 m (175 ft)

\* Actual illumination distance achieved is dependent on camera and lens characteristics.

C. Construction

1. The infrared illuminator shall be made of anodized aluminum.
2. The infrared illuminator shall have a front window made of high transmittance polycarbonate (vandal-resistant) with self-cleaning technology.
3. The infrared illuminator shall have a black finish.
4. The infrared illuminator shall be compact, robust and sealed for performance under all weather conditions.
5. The infrared illuminator shall be supplied with a U-bracket for easy mounting and adjustment.

D. Power Requirements

1. The infrared illuminator shall be an energy-efficient unit, consuming 39 W.
2. The infrared illuminator shall have a sensitivity adjustable photocell for automatic on/off operation.
3. The infrared illuminator shall be capable of accepting direct 12 to 32 VDC.

E. Environmental

1. The infrared illuminator shall operate in temperatures ranging from -50°C to +50°C (-58°F to 122°F).
2. The infrared illuminator shall be environmentally sealed to IP66 standards.

## F. Technical Specifications

<b>Power</b>	
Power supply	12 to 32 VDC
Power consumption	39 W

<b>Optical</b>	
Wavelength	940 nm
IR control	Adjustable IR intensity (10% to 100%)
Day/night switch	Photocell, sensitivity adjustable (20 lx to 70 lx)
Beam angles	10° , 30° , 60° , and 95°

<b>Mechanical</b>	
Housing	Robust anodized aluminum extrusion, black
Front window	Polycarbonate high transmittance (vandal-resistant) with self-cleaning technology
Mount	Black powder coated stainless steel U-bracket (adjustable with M6 socket-head wrench)
Cable	3 m (9 ft)
Dimensions (W x H x D)	110 x 161.5 x 75 mm (4.33 x 6.36 x 2.95 in)
Weight	1.4 kg (3.1 lbs)

<b>Environmental</b>	
Operation Temperature Range	-50 ° C to +50 ° C (-58 ° F to +122 ° F)
Protection	IP66



## 1.2 ACCESSORIES

### A. Mounting brackets

1. IIR-MNT-SLB Single L-bracket mount bracket for one IR Illuminator.
2. IIR-MNT-DLB Double L-bracket mount bracket for two IR Illuminators.
3. IIR-MNT-TLB Triple L-bracket mount bracket for three IR Illuminators.
4. IIR-MNT-PMB Pole mount bracket for IR Illuminator.

## **PART 2 – EXECUTION**

### **2.1 EXAMINATION**

- A. Examine areas to receive devices and notify adverse conditions affecting installation or subsequent operation.
- B. Do not begin installation until unacceptable conditions are corrected.

### **2.2 PREPARATION**

- A. Protect devices from damage during construction.

### **2.3 INSTALLATION**

- A. Install devices in accordance with manufacturer's instruction at locations indicated on the floor drawings plans.
- B. Ensure selected location is secure and offers protection from accidental damage.
- C. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.

### **2.4 FIELD QUALITY CONTROL**

- A. Test snugness of mounting screws of all installed equipment.
- B. Test proper operation of all video system devices.
- C. Determine and report all problems to the manufacturer's customer service department.

### **2.5 ADJUSTING**

- A. Make proper adjustment to video system devices for correct operation in accordance with manufacturer's instructions.
- B. Make any adjustment of camera settings to comply with specific customer's need.

### **2.6 DEMONSTRATION**

- A. Demonstrate at final inspection that video management system and devices function properly.

**END OF SECTION**